



WindowsTM UI Design Guidelines

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A Few Important Points Before We Begin

- ◆ **This is a work in progress**
- ◆ **These are guidelines**
- ◆ **UI design guide**
- ◆ **The importance of consistency**

Objectives For The UI

- ◆ **Improve ease of use**
- ◆ **More consistent interface**
- ◆ **More document/data-centered**
- ◆ **Allow users to focus more on their tasks**

Objects

◆ Basic concepts

- Everything is an object
- Aspects of objects
 - Components
 - Operations
 - Properties
 - Relationships

Overview Of UI Enhancements

- ◆ Title bar icons
- ◆ Property sheets
- ◆ Transfer model
- ◆ Pop-up menus
- ◆ New controls (common dialogs, spin boxes, sliders, etc.)
- ◆ Interfacing with the shell
- ◆ Object Linking and Embedding
- ◆ Visual design
- ◆ Window management (MDI)
- ◆ Minimized windows

Operations

- ◆ **Noun-verb paradigm**
- ◆ **Selection (mouse)**
 - **Available on either buttons**
 - **Pop-up on button 2**

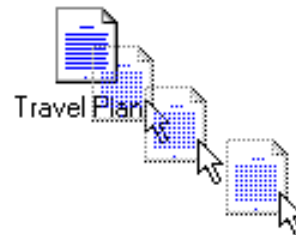
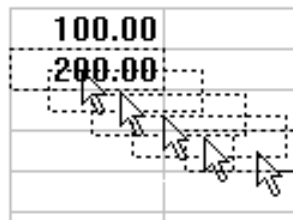
Basic Operations

- ◆ **Viewing operations**
 - **Open and close**
 - **Properties**
 - **Help**
- ◆ **Repeated view operations**
- ◆ **Shortcuts**
- ◆ **Default operations**

Basic Operations

◆Transfer

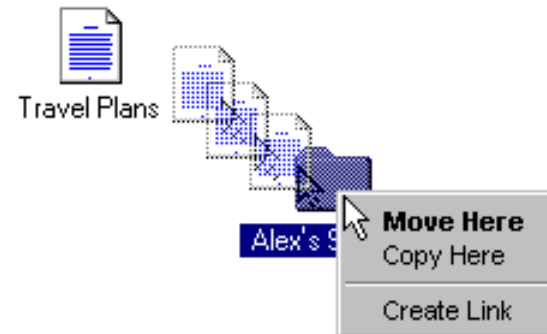
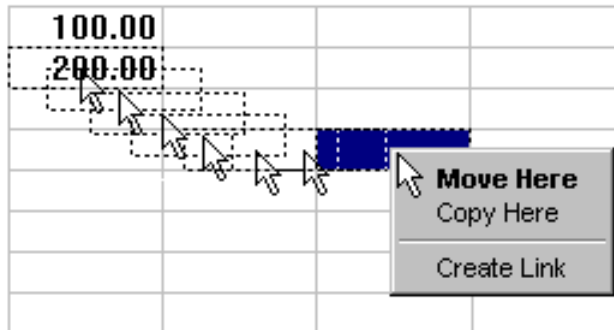
- Command model
- Direct manipulation model
 - Drag-and-Drop feature (button 1)



Basic Operations

◆Transfer

- Direct manipulation model
- Non-default Drag-and-Drop feature (button 2)



Basic Operations

◆Transfer

- Visualization
 - Source - remains selected while its view has focus
 - Destination - indicates receptivity
 - Pointer
 - Representation of the operation
 - Translucent representation of object moves with the pointer
- Scrolling

Basic Operations

◆ Transactions

- Save, close = checkpoint file
- Undo, redo, repeat
- Stop, pause, resume - process

◆ Persistence

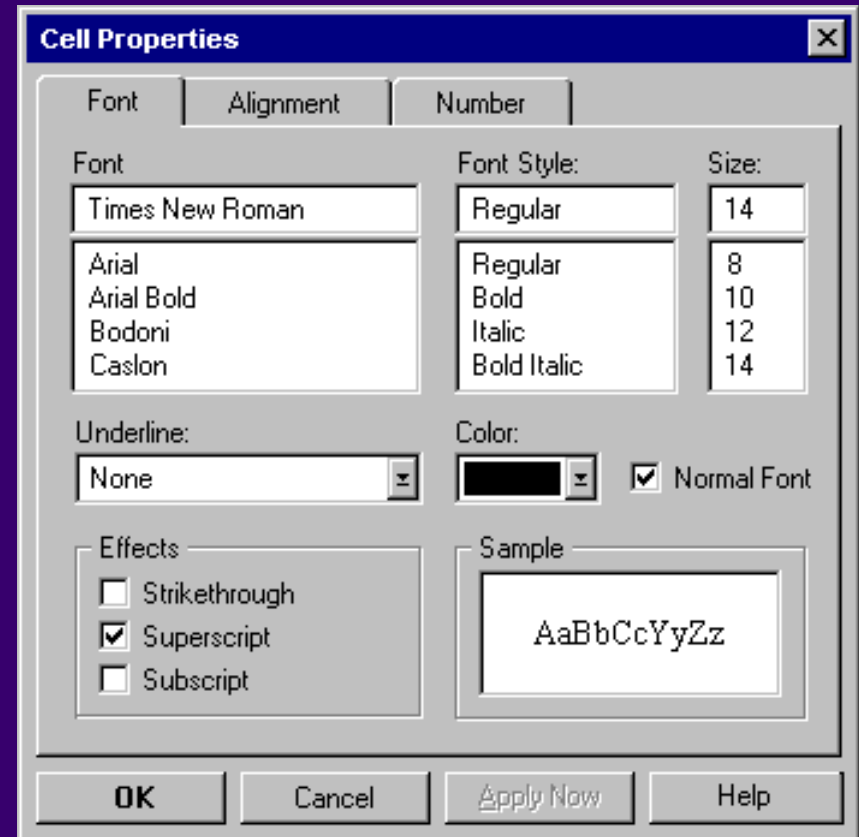
- Object state
- View state - window position, size, scroll position, selection

Properties

◆Property sheets/inspectors

◆Interface

- Pages
- Navigation
 - Tabs
 - Lists
- Command buttons
- Multiple selection results in



Icons

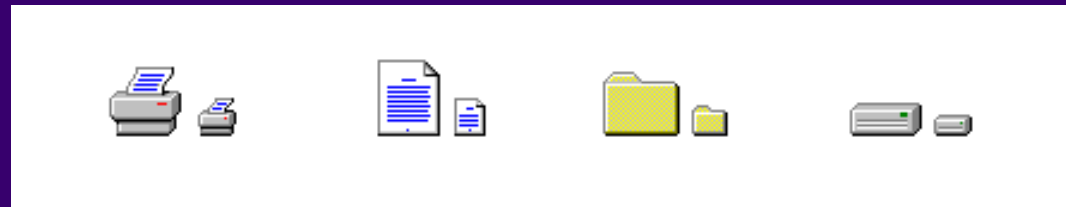
◆ **Application**

◆ **Document
types**

◆ **Sizes**

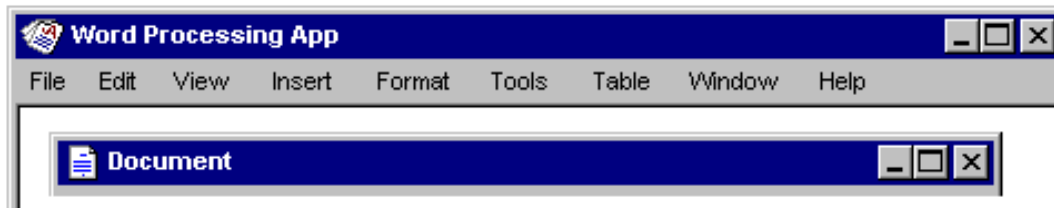
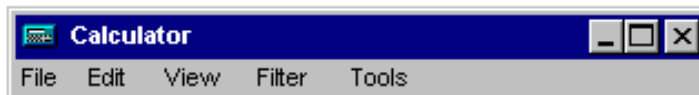
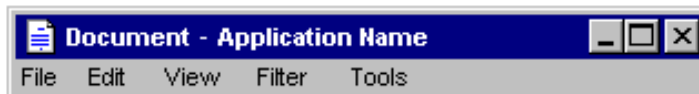
➤ **16x16**

➤ **32x32**



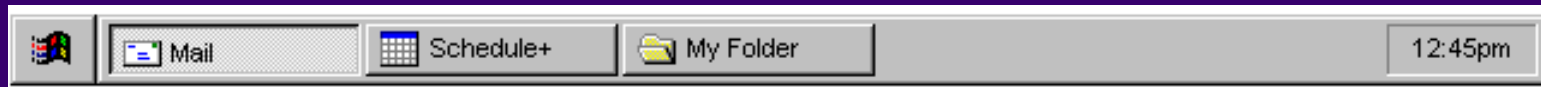
Window Design Enhancements

- ◆ Title bar
 - Title and border represent the window (and view)
 - Title bar icon represents the object being viewed in the window



Window Design Enhancements

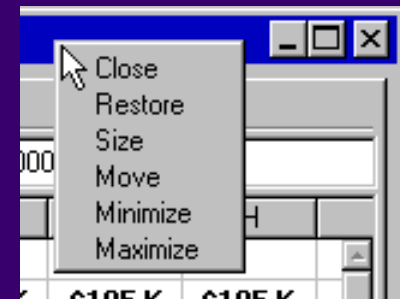
- ◆ Title text
 - Document name, *then* application name (optional)
- ◆ Title bar buttons
- ◆ Minimized windows



- ◆ Proportional scroll box

Menus

- ◆ **Menu bar**
- ◆ **Pop-up menus (a.k.a. context/shortcut menus)**
 - **Display on button up**
- ◆ **Window menu (formerly system/control menu)**



Menus

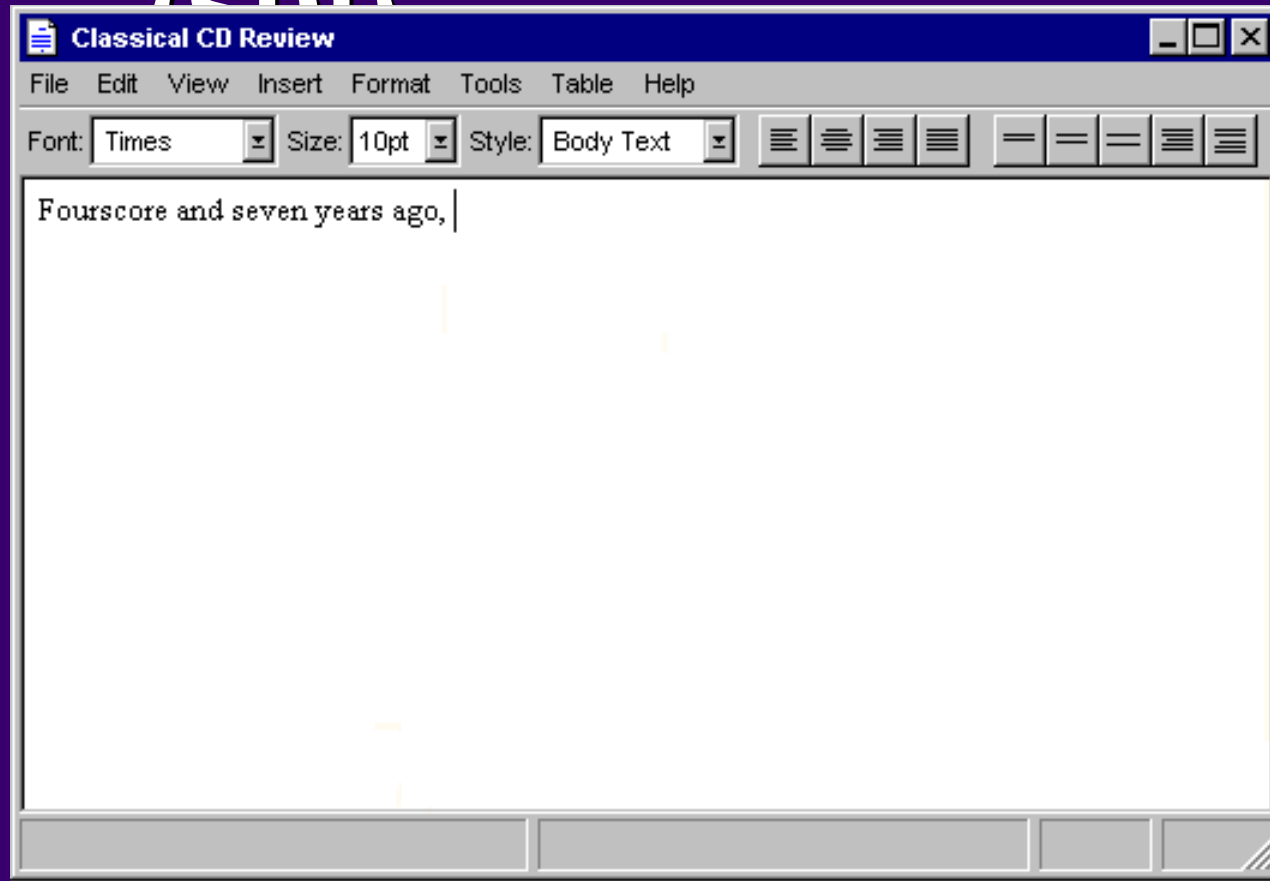
- ◆ **Toolbars**
 - **Fixed**
 - **Dockable/
windowable**

Window Management

- ◆ **Move to data/document-centric UI**
- ◆ **Possible evolutionary forms of MDI**
 - **Single document interface (SDI)**
 - **Workspaces - a windowed work area that corrals the windows opened**
 - **Workbooks - a folder-like object where the objects open within a single window**

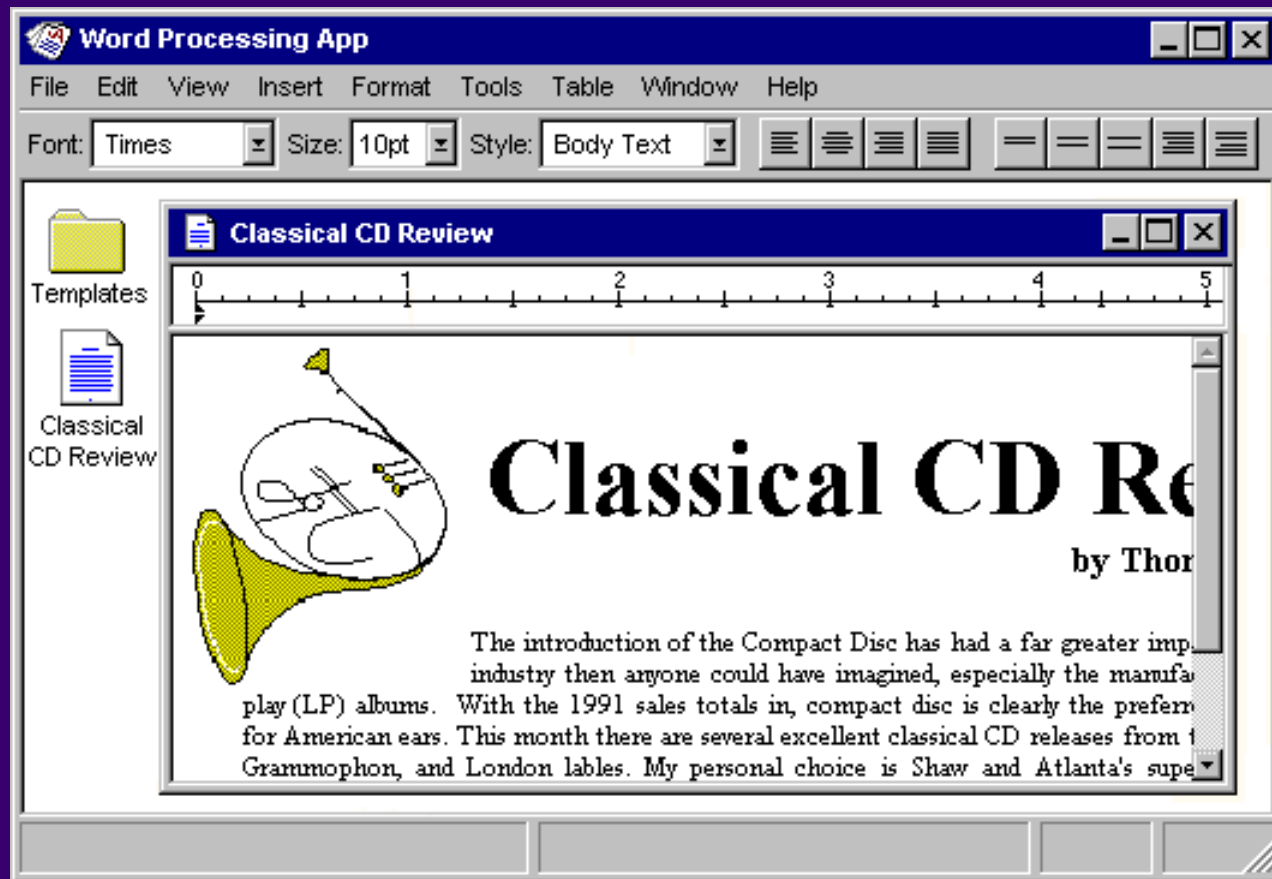
Window Management

◆Single document interface (SDI)



Window Management

◆Workspace



Window Management

◆ Workbooks

A Sample Workbook

File Edit View Insert Format Tools Data Window Help

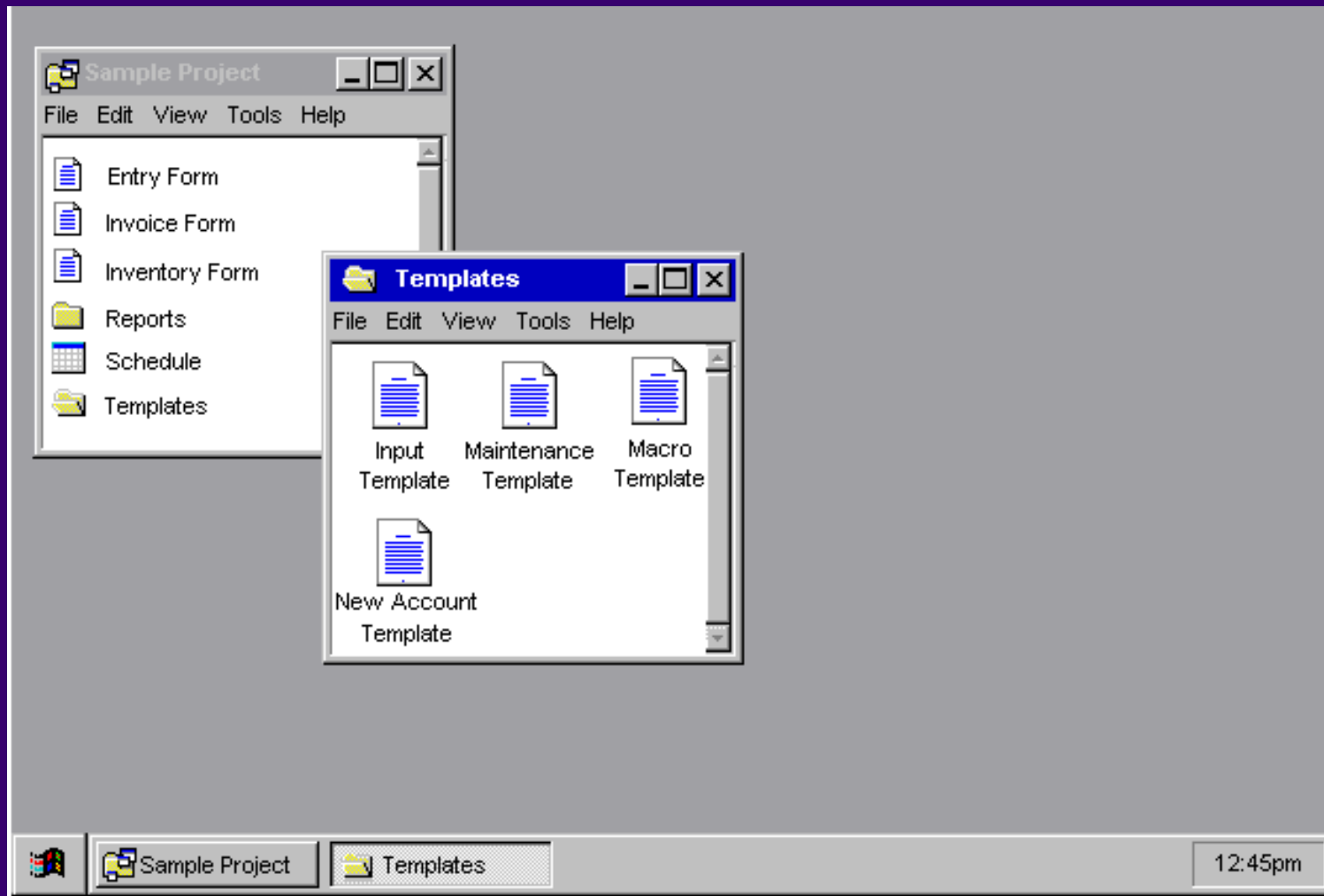
B6 f() =PMT(\$E25/12,\$D\$23*12,-F\$23)*1000

	A	B	C	D	E	F	G	H
1			30 Year Mortgage Rates					
2		\$135 K	\$145 K	\$155 K	\$165 K	\$175 K	\$185 K	\$195 K
3	7.0%	\$898	\$965	\$1,031	\$1,098	\$1,164	\$1,231	\$1,297
4	7.1%	\$907	\$974	\$1,042	\$1,109	\$1,176	\$1,243	\$1,310
5	7.2%	\$916	\$984	\$1,052	\$1,120	\$1,188	\$1,256	\$1,324
6	7.3%	\$926	\$994	\$1,063	\$1,131	\$1,200	\$1,268	\$1,337
7	7.4%	\$935	\$1,004	\$1,073	\$1,142	\$1,212	\$1,281	\$1,350
8	7.5%	\$944	\$1,014	\$1,084	\$1,154	\$1,224	\$1,294	\$1,363
9	7.6%	\$953	\$1,024	\$1,094	\$1,165	\$1,236	\$1,306	\$1,377
10	7.7%	\$962	\$1,034	\$1,105	\$1,176	\$1,248	\$1,319	\$1,390
11	7.8%	\$972	\$1,044	\$1,116	\$1,188	\$1,260	\$1,332	\$1,404
12	7.9%	\$981	\$1,054	\$1,127	\$1,199	\$1,272	\$1,345	\$1,417
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TOC

Window Management

◆Projects



Standard System Interfaces

- ◆ **Common dialogs**
- ◆ **New controls**
- ◆ **Scraps**
- ◆ **Registry database**
- ◆ **System naming conventions**
 - **Long names**
 - **UNC path**

User Assistance

◆ Context Help

- Brief, contextual info about object

◆ Task Help

- Procedure/task-oriented

Summary

- ◆ **Object/document-centric evolution**
 - **Provide contextual interfaces**
 - **Pop-up menus, properties, Help**
 - **Support OLE**
 - **Supply icons for applications and data types**
 - **MDI OK, but begin evolution toward SDI and evolutionary alternatives**
 - **Leverage and support UI model consistent with system UI**

◆ **Review the UI design guide**